

Work Order ID 165527

Friday, August 25, 2017 10:11:51 AM

165527

Ship 7 Sept

Page 1

Item ID: D5061-3

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Aft Wearplate

Start Date: 8/25/2017 Start Qty: 4.00

4

Cust Item ID:

Required Date: 9/5/2017 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

DAS

21

Date: AUG 25 2017

Tooling:

Date:

QC:

9-89

Date:

SPC (Y/N):

Date:

Run Start

NR1*

S

NR2*Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D5061

A

110

0.00

110

FLOW WATER JET

Waterjet

Memo

0.86

FLOW CNC Waterjet

1- Cut as per Dwg

Dwg Rev: AProg Rev: A

2-Deburr if necessary

④

08/17/2017

120

0.00

120

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.04

Quality Control

④

08/17/2017

130

0.00

130

QC8- Inspect parts - second check

QC

Memo

0.08

Quality Control

④

DAS
38
AUG 29 2017

Work Order ID 165527

Friday, August 25, 2017 10:11:51 AM

165527

Page 2

Item ID: D5061-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Aft Wearplate
Start Date: 8/25/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 9/5/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop **NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* Brake NC Brake NC	Form as per dwg NC BRAKE Memo Form joggle as per dwg.	0.61 1.11			DAS 30 9-89	(4)			AUG 31 2017
150 *150* QC Quality Control	QC6- All purchased or subcontracted products Memo	0.00 0.00				4			AUG 31 2017
160 *160* Large Fab Large Fab	Large Fab Memo Weld hard surface as per QSI 004 and Dwg D5061 2059 Hardcoat Rod	0.00 1.16				(4)			DYC/Q.L 17/09/06

Work Order ID 165527

Friday, August 25, 2017 10:11:51 AM

165527

Page 3

Item ID: D5061-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Aft Wearplate
Start Date: 8/25/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 9/5/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

170

QC9- Inspect visual per QSI004- Fusion Welds

0.00

170

QC

Memo

0.00

Quality Control

(4)

17-09-06

PD

180

QC5- Inspect part completeness to step on W/O

0.00

180

QC

Memo

0.08

Quality Control

(4)

17-09-06

PD

183

0.00

183

HandFinish

Memo

0.28

Hand Finishing

APPLY ROCKGARD AS PER DWG

A/R ROCKGARD BATCH: 138351

4

DAS
41
9-89

SEP 06 2017

Work Order ID 165527

Friday, August 25, 2017 10:11:51 AM

165527

Page 4

Item ID: D5061-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Aft Wearplate
Start Date: 8/25/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 9/5/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
186	QC3- Inspect Part Finish	0.00							
186									
QC	Memo	0.04				④	1209.07		PD
Quality Control									
190	Identify as per dwg & Stock Location: <i>FP002</i>	0.00							
190	Packaging								
Packaging	Memo	0.04				4		DAS 6 9-89	SEP 07 2017
Packaging									
200	QC21- Final Inspection - Work Order Release	0.00							
200									
QC	Memo	0.40							17/9/11 <i>[Signature]</i>
Quality Control									

DAS
21
9-89

SEP 07 2017

Picklist Print

Friday, August 25, 2017 10:11:54 AM

Page 1

Work Order ID: 165527

165527

Parent Item: D5061-3

D5061-3

Parent Item Name: Aft Wearplate

Start Date: 8/25/2017

Required Date: 9/5/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A 14.02.13 NEW ISSUE DD VERF:JLM IPP
REV:B 14.04.21 rev.A DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S18GA		Purchased		No		110	sf	144.5199	3.148	13.25474			

M304S18GA

304/316 .050 Sheet

2017/08/24

Location	Loc Qty	Loc Code
MAT020	143.7159	
M135779	7.02	
M136036	4.65	
M136568	12.6959	
M136687	2.24	
M136790	9.74	
M137481	24.5	
M137980	18.87	
M138346	64	10
MAT20	0.804	
M134580	0.804	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

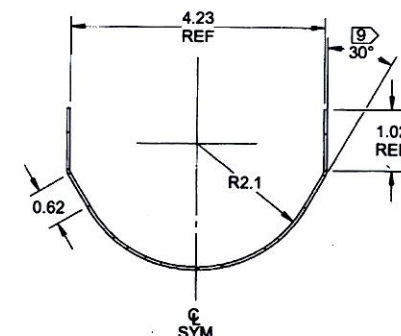
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval				
Description Work Order Deviation				Disposition							
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter		FAULT CATEGORY		☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes		☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center		☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence	
		☐ OTHER : _____									

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 105527MCS
1208-25



SECTION C-C
SCALE 3X

RELEASED
2014-04-15

D5061-3 AFT WEARPLATE
(MAKE FROM D5061-3F)

NOTES:

- 1) MATERIAL: MAKE FROM D5061-3F
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 METHOD 6.1
- 7) WEIGHT: 2.7 lbs
- 8) WELDING: PER QSI 004, APPLY LAYER OF 2059 HARDCOAT WELD TO 0.063 - 0.125 HIGH AFTER BENDING
- 9) IT IS ACCEPTABLE TO OVERBEND UP TO 2 DEGREES OR UNDERBEND UP TO 5 DEGREES.
- 10) COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING, 0.020 - 0.040 THK PER QSI 005 4.9
- 11) OPEN UP DRAIN HOLE IF NECESSARY TO $\phi 0.188$ AFTER APPLYING TEXTURED COATING

APPROVED

DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	AJS	
CHECKED	AP	DRAWING NO. D5061
MFG. APPR.	DD	REV. A
APPROVED	MP	SHEET 3 OF 5
DE APPR.	DS	TITLE WEARPLATE
DATE	14.04.08	SCALE NTS

COPYRIGHT © 2014 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS
NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT
WRITTEN PERMISSION FROM DART AEROSPACE LTD

DQA: _____ Date: _____

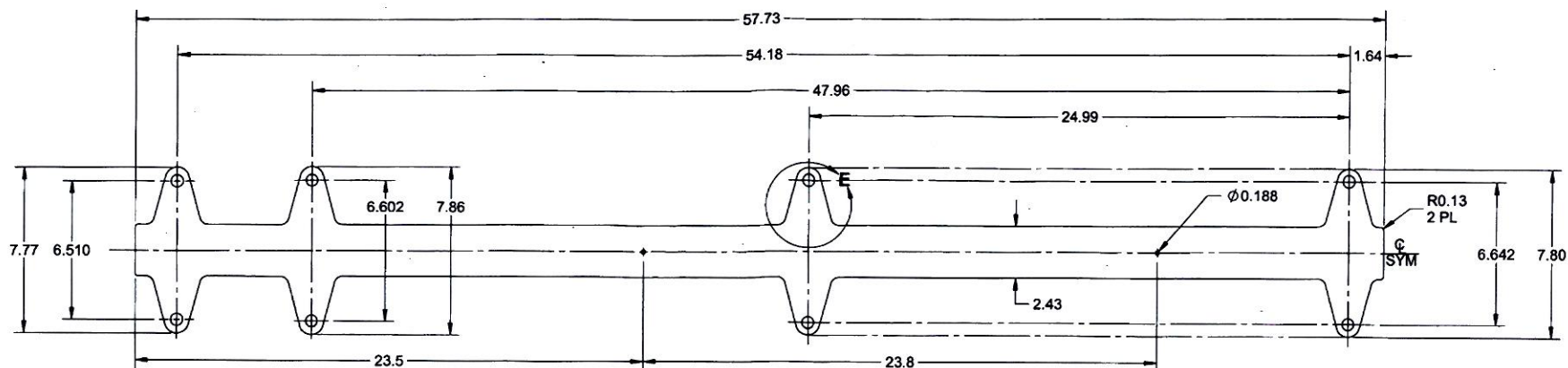


WORK ORDER NON-CONFORMANCE / UPDATE

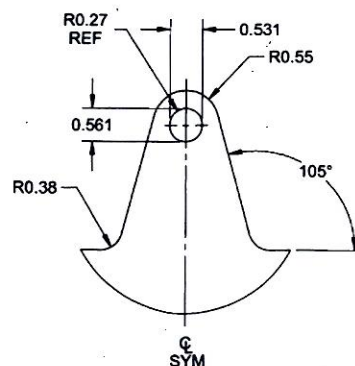
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					



D5061-3F AFT WEARPLATE



DETAIL E
SCALE 3X
4 PL

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL PER MIL-S-5059 OR AMS 5513 OR AMS 5524 OR ASTM A240 OR ASME SA240 18 GAUGE 0.050 THICK (REF DART SPEC. M304S18GA)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A

RELEASED
2014-04-15
D

APPROVED

DESIGN	AP	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5061	SHEET 5 OF 5
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	WEARPLATE	NTS
DATE	14.04.08	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
				<i>259</i>					

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :					
Misidentified ☐	Past Due ☐						